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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,008	12/01/2003	Anthony Vesci	8573	2692

61285 7590 11/03/2006

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EXAMINER	
CROWELL, ANNA M	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C

Office Action Summary	Application No.	Applicant(s)	
	10/726,008	VESCI ET AL.	
	Examiner	Art Unit	
	Michelle Crowell	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-14,16,17 and 21-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-14,16,17 and 21-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, 4-8, 12-14, 16, 21-22, 24, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 2003/0192646 A).

Referring to Figures 2, 3, 5, and page 3, paragraph [0049], Wu et al. discloses a magnet assembly for a plasma process chamber, the magnet assembly comprising: a hollow collar 140 comprising a cross-section that is absent seams, the collar having an open end face; a cap 120 to seal the open end face; and (c) a plurality of magnets 150 in the hollow collar, the magnets being insertable through the open end face.

Wu et al. fail to specifically state that the collar 140 is sized to be capable of diametrically expanding to snap fit a wall or liner of the process chamber 100; however, as seen in Figure 2, there is a snug fit between the collar and the wall or liner 215. Furthermore, it is still an obvious design choice since it would prevent void space between the collar and the wall and hence prevent corrosion or contamination. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention that the collar is sized to be capable of diametrically expanding to snap fit a wall or liner of the process chamber since this would eliminate void space between the collar and the wall and hence prevent corrosion or contamination.

With respect to claims 3 and 30, the magnet assembly further includes that the hollow collar 140 is shaped to fit into a corresponding groove on a wall 215 of the process chamber 100 (Fig. 2).

With respect to claims 4, 5, 21-22, 24, and 28-29, Wu et al. fails to specifically teach a retaining ring or key.

As seen in Figure 2 of Wu et al., the hollow collar 140 is held in the groove of the wall or liner 215. It is conventionally known in the art to use a retaining ring or key to hold components securely intact. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a retaining ring or key in the chamber of Wu et al. in order to ensure that the hollow collar is securely held to the wall.

With respect to claim 6, the magnet assembly further includes that the plurality of

magnets 150 abut one another to generate an annular magnetic field about the process chamber (Fig. 5, par.[0052]).

With respect to claim 7, the magnet assembly further includes that the plurality of magnets 150 are positioned in the hollow collar 140 such that their south poles are directed upwardly and the north poles are directed downwardly (par. [0052]).

With respect to claim 8, the magnet assembly further includes that the plurality of magnets are positioned in the hollow collar such that the magnetic axes of the magnets are oriented perpendicular to a wall of the process chamber (par. [0052]).

With respect to claim 12, Wu et al. teaches a hollow collar and it would be obvious to have a plurality of hollow collars to enhance plasma confinement. Additionally, although the reference did not disclose a plurality of hollow collars, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)).

With respect to claim 13, Referring to Figures 2, 3, 5 and paragraphs [0043]-[0047], Wu et al. discloses a plasma process chamber comprising at least one wall having the magnet assembly of claim 1 fitted thereon, the process chamber further comprising: a substrate support 205; a gas supply 295 to provide process gas; a gas energizer 280 to energize the process gas; and an exhaust 260 to exhaust the process gas.

With respect to claim 14, the chamber further includes that the wall 215 of the chamber comprises a groove to receive the magnet assembly (Fig. 2).

With respect to claim 16, the chamber further comprises a pair of concentric walls 215 hat each comprise a magnet assembly (Fig. 2).

5. Claims 9-11, 17, 23, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 2003/0192646 A) in view of Quiles et al. (WO 01/91164).

The teachings of Wu et al. have been discussed above.

Wu et al. fails to teach a first set of magnets oriented in one direction and second set of magnets oriented in the opposite direction and a pole piece or a separator wall.

Referring to Figure 3 and page 6, line 18-page 7, line 1, Quiles teaches a pair of magnets 182, 184 which are coupled with a pole piece 186 to form a horsehoe magnet used to confine plasma. The magnets 182 and 184 are oriented opposite to each other. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the plurality of magnets of Wu et al. to have opposite orientation and coupled with a pole piece or separator wall as taught by Quiles et al. since this is a conventional and alternate magnet arrangement used to confine plasma.

Response to Arguments

6. Applicant's arguments with respect to claim1, 3-14, 16, 17, and 21-30 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has argued that Wu et al. fail to anticipate that the collar is sized to be capable of diametrically expanding to snap fit a wall or liner of the process chamber; however, as stated above, it is an obvious design choice since it would eliminate void space between the collar and the wall and hence prevent corrosion or contamination.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (571) 272-1432. The examiner can normally be reached on M-F (9:30 -6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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